



Information Technology Standards and Guidelines Program

***Data Element Naming Conventions &
Standardization***

Technical Standard and Guideline IT-212.03-13

November 2001

Executive Summary

This Technical Standard and Guideline (TSG) provides guidance for naming data elements in an Automated Information System (AIS) and procedures to prepare the Data Element Definition Worksheet as outlined in the Life Cycle Management (LCM) for AIS manual. The LCM-AIS establishes a comprehensive set of policies, principles, procedures, practices, technical standards, and support tools that the United States Patent and Trademark Office (USPTO) has adopted for use in AIS development, modification, and management. This document is one in a series of related TSGs, which are used to describe methods, procedures and documentation associated with specific development activities – in this case, the Data Element Naming Conventions and Standardization. The document defines the naming conventions for logical and physical data elements that are being implemented in an AIS and the standardization of the metadata of the USPTO business information.

The intended audience for this TSG are all USPTO employees and contractors that are responsible for developing, re-designing, and enhancing a production AIS. The data element naming convention and standardization procedures apply to all new and redesigned Automated Information System development projects and all data modeling and data standardization efforts at the USPTO. Through properly naming data elements, developers can effectively define the USPTO business information in a standardized method, making system information understandable enterprise-wide. The USPTO Data Element Definition Worksheet, a product of this TSG, is used by the Data Administration Division staff to standardize the USPTO business information with the review and approval of the appropriate Data Steward(s).

During the Detailed Analysis and Design Phase, a logical data model is prepared based on information contained in the following documents: System Boundary Agreement, Requirement Specification, High Level Architecture, and Concept of Operations. During end-user interviews, requirements are refined and a logical and physical design models of the data base are prepared. Data elements defined in the logical model (e.g., entity and attributes) and physical model (e.g., tables, columns, foreign keys) are required to follow the naming conventions as specified in this TSG. Business information that is being implemented should be standardized. There are two products as results of this document: the logical and physical names of AIS data elements and the USPTO Data Element Definitions Worksheet, a by-product of the data model. The USPTO Data Element Definitions Worksheet supports the USPTO's approved Information Resource Management policy for data administration. Use of consistent data element names supports business policy to treat data as an enterprise-owned asset. Having data elements clearly named and defined establishes the ground work to minimize data redundancy,



increase data sharing, and improve data quality. Use of standard data elements facilitates system development and enhances the quality of data delivery to the system customers.

1. PURPOSE: The purpose of the Data Element Naming Conventions and Standardization TSG is to explain how to develop, approve, and maintain data elements in support of an Automated Information System, both in logical design and physical implementation. The products of this process are the naming conventions for the USPTO data elements and the Data Element Definition Worksheet.
2. AUTHORITY: This TSG is published by the Chief Information Officer (CIO), United States Patent and Trademark Office (USPTO).
3. APPLICABILITY: This Data Element Naming Conventions and Standardization TSG applies to all USPTO personnel and contractors responsible for AIS projects.
4. SUMMARY OF CHANGES: This TSG applies to all AIS projects. It supercedes the previous Data Element Standardization TSG, August 1996.
5. SCOPE:
 - a. Compliance. Compliance with the provisions of this document is required unless explicitly waived by the CIO.
 - b. Waivers. Waivers to the provisions of this publication will be authorized only by the CIO, on a case-by-case basis, in writing.
6. RECOMMENDATIONS: Comments on this TSG should be forwarded to the USPTO Office of Chief Information Officer (OCIO) Software Engineering Process Group (SEPG)
7. APPROVAL: The naming procedures for data elements and the USPTO Data Element Definitions Worksheet shall be prepared in accordance with this TSG, and shall be approved as described in the LCM, pending review by the Technical Review Board (TRB).

SIGNEDDoug Bourgeois
Chief Information Officer

November 9, 2001

Date Signed

Record of Changes

CHANGE NUMBER	DATE OF CHANGE	DATE RECEIVED	DATE ENTERED	SIGNATURE OF PERSON ENTERING CHANGE

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1. GENERAL

1.1 Introduction

The purpose of the *Data Element Naming Conventions and Standardization* Technical Standard and Guideline (TSG) is to aid developers and data modelers in designing and standardizing data elements. This document describes the USPTO's data naming conventions and procedures to standardize our business information.

All Automated Information System projects are subject to this *Data Element Naming Conventions and Standardization* TSG, as outlined in the *Life Cycle Management for Automated Information Systems* manual.¹ Any data modeling and data naming effort at the USPTO must apply the data naming conventions detailed in this document.

Standardization of data elements is key to development of an enterprise-wide data architecture at the USPTO. Building a common data architecture addresses typical enterprise data problems, such as inaccuracy, inconsistency, untimeliness, inaccessibility, higher than necessary data maintenance expenses, and lack of data integration. The standardization component of the common data architecture requires that the enterprise define all existing and new data in a common context so that the data can be easily understood and readily shared. Each element needs to be understood in terms of what it means, then it needs to be uniquely identified, defined, named, and related appropriately. The enterprise cannot afford to dismiss its investment in existing data. Data in new systems is subject to the same process so that its value is realized beyond a single implementation.

The standardization program supports the USPTO's approved Information Resource Management policy for data administration. Use of consistent data element names supports business policy to treat data as an enterprise-owned asset. Having data element names clearly defined establishes the groundwork to minimize data redundancy, increase data sharing, and improve data quality. Use of standard data elements facilitates system development and enhances the quality of data delivery to the system customers.

The *Data Element Naming Conventions and Standardization* Technical Standard and Guideline explain how to develop, approve, and maintain data elements in support of an Automated Information System. The products of this process are the naming conventions for the USPTO data elements and the Data Element Definition Worksheet. A sample of the convention for logical entity type and attribute names and physical table and column

¹ To obtain the *Life Cycle Management for Automated Information Systems* manual, contact the USPTO Office of Chief Information Officer, Software Engineering Process Group.

names can be found in Appendix A. The data element worksheet, instructions on how-to, and a sample worksheet are described in details in Appendix B.

1.2 Concepts and Definitions

Data Element

Data elements are representations of business facts. Examples of data elements include Patent Application Number, Social Security Number, Inventor Name, Country Code, and Applicant Address. By convention, data elements are the basic units of data that compose a record within a file of organized data suitable for processing. These basic units of data may, in fact, be compound data (e.g., Address), atomic data (e.g., Name Line One Text, Street Line One Text, Postal Code or Country Code), primitive data (e.g., Individual Birth Date), or derived data (e.g., Total Number of Claims or Unpaid Patent Fee). A data element must have a name, description, data type, structural composition, domain, and integrity constraints. A data element in a logical data model is called an attribute and when transformed into a physical implementation environment, it becomes a column in a data base table.

Data Naming Convention

Data naming convention is a set of rules that govern the structure of a data element's name and its contents. The data element's name reflects the essential meaning and relationships of the data that are identified. The naming convention assists in the classification of data by organizing data into classes such as codes, categories, dates, etc. that will be explicitly expressed in the data element name. A data element that has a clear and descriptive name is greatly preferred to those given without thought to data sharing or future use by others.

Standard Data Element

A standard data element must represent the metadata attributes of data entities (normally discovered through data modeling), convey a single, atomic fact of importance to the mission, and directly support the business rules and semantics associated with the fact. A data element is standard when it has been designed, named, and its critical metadata attributes documented and approved according to the guidance in this Technical Standard and Guideline.

Data Element Domain

A domain is the set of valid values approved for a data element. Data element domains must be well-formed representations of approved business policy. They are controlled by the data authority usually referred to as the Data Steward, a business matter expert appointed by a Business Area Manager. A domain can be either specific or general.

- **Specific Domain.** A specific domain has a finite definition and a specific set of data representations as shown in the example below. A specific domain is defined by naming the acceptable values allowed in a prescribed set of data representations.

Examples:

Data Element Name	Domain Values
Gender_Code	M; F
Classification Category Code	OR; XR
Mark Drawing Code	1; 2; 3; 4; 5; 6

- **General Domain.** A general domain has a broad definition and a large (possibly infinite) set of acceptable values that cannot be enumerated within reason. A general domain is described by establishing a range or set of possible values, but does not require listing all the possible values. Certain values or characters may be restricted. An example of a general domain is shown below.

Example:

Range:

Patent Number

A general domain composed of alpha and numeric characters, with alpha characters (A-Z) on the left.

Data Standardization

- Data semantics are the rules for meaning and usage of a particular string or value of data. Data can be effectively shared only to the extent that semantics are understood in a precise and unambiguous way by all who share the data.
- Data standardization can only be successful with regulation and standardization of 1) the information that describes the semantics of data, 2) the set of valid values of data whenever the value set is purposely constrained,

and 3) the representation of data in its most simple and useful form. These three sets of information about data, when specified more precisely, are commonly referred to as metadata.

- The approach to achieving data standardization begins with the premise that metadata is a very important set of corporate-level data that needs to be defined, created, reported, updated, and maintained in a non-redundant, efficient manner. This approach requires the existence of a highly structured data base of metadata called an information repository. The information repository contains the standard data elements supporting the USPTO data resource management program.
- Data elements are derived from logical entities and their attributes, identified in data models. Each data element represents an attribute of an entity in a data model. The data model supports the implementation of information systems that process the USPTO data.
- Data elements may be developed through the analysis and reverse engineering of existing files and legacy data bases and, again, through data modeling activities.

Entity Type

An entity type is a fundamental concept that is of relevance to an enterprise about which data may be kept. Examples include employee, applicant, patent application, and issued patent. The data required by an organization to perform its mission could be graphically represented in data models. Data models contain data entities, their attributes, and relationships between data entities. Data elements are discovered and designed through data modeling activities. Data modeling also ensures that data element definitions reflect program policy and represent valid data requirements. An attribute becomes a standard data element as a result of standardizing and documenting selected characteristics that describe data semantics, data format, and sets of valid data values. These characteristics are called metadata attributes. An entity in a logical data model when being transformed into physical implementation environment will become a table in the data base.

Primary Entity Type

A primary entity type is an entity type that does not depend upon any other entity type for its identifier. A primary entity type in a logical data model when transformed into the physical implementation environment will become a parent table.

Secondary Entity Type

A secondary entity type is an entity type that depends on one or more other entity types for its identification. The secondary entity type uses the identifier from other entity type(s) via relationships and additionally either an attribute or sequence number (system generated identifier) to define its uniqueness. Secondary entity types in a logical data model when transformed into a physical implementation environment will become a child table.

Metadata

- Data elements have definitive characteristics that collectively identify, quantify, and qualify facts about the data element itself. These facts include the description, authority, form, type, name(s), integrity rules, and value sets (or domains). Metadata are facts about data. It is the metadata for data elements that are accepted as the corporate standards and maintained in a repository. Metadata for standard data elements will be registered in the USPTO information repository.
- Reuse of standard metadata results in the implementation of standard data elements in operational Automated Information Systems.

1.3 Objectives of Process

This Technical Standard and Guideline provides guidance for the naming convention for logical and physical data elements; and development, approval, and maintenance of standard data elements. Having consistent data structure from system-to-system minimizes the development effort to create and maintain data elements and promotes data sharing USPTO-wide. Standardizing data elements supports overall USPTO data policy objectives.

Use of these procedures is mandatory for initiatives to collect information or to develop, re-engineer, or migrate Automated Information Systems. Waivers under exceptional circumstances will be authorized only by the Chief Information Officer, on a case-by-case basis.

The data naming conventions and standards contained in this Technical Standard and Guideline apply to:

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- Data elements used by Automated Information Systems that will be developed, modernized, or migrated in support of the USPTO mission;
 - Data elements derived from data models developed in support of Business Process Re-engineering activities; and
 - Data elements included in any logical data model and data base.

Data elements prescribed by information system computer program specifications to support internal system processing requirements (e.g., logic flow controls, counters, subscripts, flags) and commercial-of-the-shelf (COTS) applications will not be subject to these naming conventions and standardization procedures.

The basic approach of the data element naming and standardization procedures outlined in this Technical Standard and Guideline is to:

- Name data element using the conventions contained in this manual;
- Use approved standard data elements whenever possible;
- Have business area-specific proposed data elements reviewed by the Operational Data Steward (and the appropriate Business Data Steward if needed); and
- Use common business names for data element names to the maximum extent possible.

This Technical Standard and Guideline includes the criteria and rules for naming and standardization of data elements throughout the USPTO.

The objectives of Data Element Naming and Standardization include the following.

- a. Develop standard data elements that satisfy enterprise mission needs; adhere to USPTO business rules; and support operational activities requiring the collection, storage, and exchange of data.
- b. Develop standard data elements through top-down data modeling, bottom-up reverse engineering efforts, and the development and refinement of an enterprise data model.
- c. Develop an awareness of the value of managing data resources.
- d. Provide guidance for the uniform name, description and representation of data in a logical data model as well as physical tables and columns.

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- e. Provide a single management mechanism that implements the data element standardization policy.
 - f. Aggressively migrate to a managed data environment while preserving, to the extent possible, current investments in data.
 - g. Support the development of common data requirements and formats to eliminate data definition redundancies and discrepancies.
 - h. Minimize the cost and time expended in transforming, translating, or researching the meaning of related data elements. These are not limited to, but may include, differently named but otherwise identical data elements (synonyms) or similarly named data elements with differences in definition or values (homonyms).
 - i. Improve the integrity and usage of data through data structuring rules and standards and by coordinating data element names and definitions among agencies, department-level organizations, and national and international organizations where necessary or desirable.
 - j. Document standard data in a central information repository. The reference may be copied, but it will be centrally maintained in the repository. Offices throughout the USPTO may continue to use data dictionary facilities already held, under development, or those encyclopedias commonly provided with Integrated-Computer-Aided Software Engineering (I-CASE) tools. USPTO's technical data stewards are responsible for ensuring the information in their data dictionaries is consistent with the information in the central repository.

1.4 Context in Life Cycle

Data modeling begins in the Concept phase, with assessment of data requirements. The logical and technical naming conventions for defining data elements should be initiated as early as the Detailed Analysis and Design phase and shall be completed and implemented in the Development phase. The formal Data Element Standardization process can start shortly in the Detailed Analysis and Design phase after the logical data model is complete and validated by the business users and the Data Administration Division staff. Changes to project-specific USPTO Data Element Worksheets are possible in subsequent life cycle phases. Change control authority belongs to the Director, Office of Data Management. The Business Area Data Manager or designee is responsible for assessing any impact that changes may have on the rest of the project, such as testing, business system design, and technical design.

1.4.1 Concept Phase

The Data Element Naming Convention and Standardization processes do not start until the Detailed Analysis and Design Phase where the data model development effort

initiates. However, there are several data-related activities that should be completed in the Concept Phase such as

- a. Assessing data requirements from the Business Case, System Boundary Agreement, and the Concept of Operations. These documents provide a beginning for capturing and designing shared data elements. Based on the analysis from the assessment, develop a high-level data model.
- b. Defining the AIS data management approach and methodology.
- c. Obtaining approval to start Detailed Analysis and Design Phase activities.

1.4.2 Detailed Analysis and Design Phase

In the Detailed Analysis and Design phase, the Data Element Naming and Standardization processes will occur concurrently with the Data Modeling and Detailed Design activities as the following activities are undertaken.

- a. Gather information from the USPTO Enterprise Data Model, existing standard data elements, central repository, existing system documentation, and user's requirements sessions.
- b. Analyze data by distinguishing a logical data element that contains a business fact from a technology specific data element.
- c. Develop AIS logical data model and validate it with the business users and the Data Administration Division staff. The AIS logical data model should be based on the USPTO Enterprise Data Model and should contain as many standard data elements as applicable. Enforce the Data Element Naming Convention for entities and attributes that have not been standardized in the logical model and tables and columns in the data bases.
- d. Identify the business information that has not been standardized and access the USPTO central repository to generate data element standardization worksheets for each data element.

1.4.3 Development and Subsequent Phases

The USPTO data element naming definition and standardization worksheet activities should be completed and implemented during the Data Conversion and Interface Design activities of the Development phase and subsequent phases. The AIS data model and its accompanied reports will become part of the Detailed Design document. The USPTO Standard Data Element Worksheets will be incorporated into Rochade, the central data repository.

1.5 List of Products

The resulting products required from this Technical Standard and Guideline are the USPTO logical and technical design names and the USPTO Data Element Definition Worksheets for AIS data elements. The naming conventions should be implemented by the system developers and reflected in the logical data model as well as in the physical data base. The data element worksheet is a form that contains all specific information required to request an update to a data element's characteristics or to request standardization of a new or legacy data element. A sample on defining the logical entity type and attribute names and physical table and column names can be found in appendix A. The data element worksheet format and its instructions are defined in Appendix B.

2. TASKS AND RESPONSIBILITIES

2.1 Introduction

This section describes the tasks and responsibilities of the USPTO and supporting contractors associated with the data element naming and standardization activities. They include the following steps.

- a. A logical data model is required where all desired data elements are defined. The system development team completes this activity. All entity types and attributes in the data model, along with their associated technical design names for tables and columns should be developed in compliance with the USPTO Data Naming Convention as described in section 2.3, Define Data Element Names, of this TSG. The logical data model should be validated by the business users and the Data Administration Division staff.
- b. After the logical data model is completed and validated, it will be imported into Rochade. The physical data model, along with the Oracle data base structure will also be imported into Rochade. The Data Administration Division staff will define the data element's metadata for standardization and prepare the worksheets.
- c. The Data Administration Division staff will complete the worksheets in close coordination with the business users and system development team and submit the USPTO Data Element Definition Worksheet for approval.

Table 2.1 provides a summary of roles by task and function for the Data Element Naming and Standardization process. A more comprehensive project specific listing of roles and functions is included in the Project Management Plan.² In Table 2.1, different functions may be performed by the same person.

² Refer to the *Project Management Plan* Technical Standard and Guideline, IT-212.2-01.

Table 2.1 Task by Functions and Roles

FUNCTION ⇒ ROLE ↓	Design Data Element/ Apply Data Naming Convention	Define Data Element for Standardization/Prepare Worksheet	Complete and Submit the USPTO Data Element Definition Worksheet
Program/Project Manager	Plans and coordinates data collection activities	N/A	Reviews system-specific work-sheets to ensure business requirements are accurately documented
System Development Team	Plans and coordinates data element collection activities. Oversees and participates in the data naming convention for entity types and attributes in the logical data model and physical tables and columns in the data base. Participates in the design of system-specific data elements; ensures system-specific compliance with the data naming standard	Participates in the system-specific definition of the proposed standard data elements, ensuring system-specific data elements compliance with the data naming convention.	Reviews and/or submits USPTO Data Element Definition Worksheets for Data Administration review.
Data Administration	Provides assistance in designing data elements; advises or leads model-based data element design; provides technical assistance in applying data naming convention rules	Coordinate with the system development team and business users to define the metadata for proposed standard data element's.	Prepares USPTO Data Element Definition Worksheets for approval. Reviews and renders decisions on the USPTO Data Element Definition Worksheets; approves standard data elements
Business User Involvement	Participates in designing data elements for the Automated Information System; provides assistance in defining the data element name	Provides information on data element characteristics.	Reviews system-specific USPTO Data Element Definition Worksheets

2.2 Design Data Elements

The USPTO requires consistent procedures and standards in designing and capturing sharable data. The quality of data element design is key to establishing a sound foundation for all data structures. Data must be designed with sharability in mind. Management decisions are based on information derived from the data structure.

The naming and standardization of data elements is based on the entity types and attributes identified in approved USPTO data models, to ensure maximum sharability and interoperability of data. Critical elements of early data element design include identification of its name, purpose, authority, domain, description, and structure. The following rules are important to the design of a data element:

- a. Data elements must be designed to represent the characteristics of entity type identified in data models. A model-driven approach to data element naming and standardization provides a logical basis for, and lends integrity to, the meaning of the data and what is being standardized.
- b. Data element attributes must be designed according to functional requirements and logical, not technology specific, characteristics. Technology specific characteristics include any reference to technology (hardware or software), physical location (data bases, records, files, or tables), organization, or application (system, application, or program).
- c. Data elements are derived from the logical model of the business processes, which are being or have been automated. Their design must be based on the characteristics of the object or concept they describe (i.e., what it is) rather than how, where, and when the data element is used or who uses it.
- d. Data elements must be designed so that they have singularity of meaning. A data element should reflect a single concept to promote sharability and data independence from applications using the data element (e.g., use Reference Document Type Code rather than Reference Document Type Code).
- e. Data element descriptions should not contain conjunctions or phrases indicating multiple concepts, ambiguity of definition, or process orientation. Descriptions should be void of technical jargon that may be unfamiliar to the business area expert. Do not use acronyms or abbreviations unless sanctioned by this Technical Standard and Guideline and the Data Administration Division (e.g., use Reference Document Citation Number instead of Ref Doc Cita No). Exceptions are rare but do occur (e.g., Goods and Services Statement) and will be evaluated on a case-by-case basis.

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- f. Data element descriptions must be more than just a reiteration of other characteristics of the data element (e.g., metadata such as data element name). The description for code type data elements should contain examples about the valid values or domain of the data elements.
 - g. Data element assigned values must be homogenous, mutually exclusive, and, for a specific domain, totally exhaustive.
 - h. Data element codes should avoid values that may be confused with other values in the same domain (e.g., 0/O (numeric zero/alpha O), 1/l (numeric one/alpha lower case L), 2/Z, and 5/S).
 - i. Data element values must avoid the use of embedded meaning or intelligence within all or part of the code. For example, Patent Document Number consists of Country Code, Document Kind Code, and Patent Number.
 - j. The purpose of a data element should not overlap or be redundant with the purpose or use of other data elements, e.g., Birth Date, Current Date, and Age. Age can be computed from Birth Date and Current Date. Each represents basic concepts applicable to many uses. Any requirement for information about a person's age can be met by simple computations using the data elements Birth Date and Current Date.

2.3 Define Data Element Naming Rules

The design and naming of a data element is an iterative process as the data element design and name are often modified during the modeling process. Design the data element unambiguously first and then apply the rules for naming

2.3.1 Logical Data Element Naming Convention

The set of rules for naming data elements establishes a naming convention that makes it easier to determine if a data requirement is already being met or if it is a new requirement that needs to be fully defined and the data collected and distributed as necessary. The naming convention advocated by the USPTO supports use of the common business name. It leads to “end user friendly” data element names. The naming conventions described in this section applied to entity type and attribute names in a logical data model.

- a. Data element names should consist of the minimum number of words that adequately identify the data element. In general, the greater the number of

words used in the name, the more narrow or restrictive the data element becomes.

- b. Often the best and simplest name for an entity type and attribute is the common business name of the real-world object that it represents. When there is wide acceptance and clear and unambiguous understanding of the common business name, the data element should assume the same name (e.g., Social Security Number).
- c. When a name other than a common business name must be assigned, apply the following syntax rules when constructing the name.
 - Avoid abbreviations and acronyms. Exceptions to this rule include universally accepted abbreviations or acronyms as defined in Appendix D.
 - Only alphabetic characters (A-Z, a-z), numbers, and spaces () are permitted. However, numbers are not allowed as the first character of a logical data element name.
 - Each component of a data element name is separated by an underscore.
 - Plural words are not permitted unless the common business name is used.
 - Possessive forms of words are not permitted unless the common business name is used.
 - Prepositions (e.g., at, by, for, from, in, of, to) are not permitted unless the common business name is used.
 - Articles (e.g., a, an, the) are not permitted.
 - Conjunctions (e.g., and, or, but) are not permitted unless the common business name is used.
 - Verbs are not permitted unless the common business name is used.
- d. When a name other than a common business name must be assigned, apply the following semantic rules when constructing the name.
 - Data element names must not be names of organizations, computer or information systems, directives, forms, rows, columns, or reports.

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- Data element names must be clear, accurate, and self-explanatory.
 - Data element names must not express multiple concepts, either implicitly or explicitly.
- e. When a name other than a common business name must be assigned, apply the following structuring conventions.
- A data element name consists of a prime word and a class word. Modifiers are optional and applied when necessary. The format for a data element name is:

MODIFIERS	PRIME WORD	MODIFIER(S)	CLASS WORD
Optional	Required	Optional	Required

- The **prime word** identifies the object to which the data element refers. For example, an organization may need to maintain information about patents so an entity type Patent could exist. The prime word for this entity type would also be called Patent. A prime word is the noun designation given to an entity type identified in a data model. Prime words are the same as entity type names and should be reused in creating names for standard data elements. Words used as prime words in some data element names may be used as modifiers in other data element names.
- **Modifiers** refine the prime word and normally designate a data sub-entity to distinguish it from other sub-entities of the same data entity. For example, an organization may be interested in information about two distinct groups of patents, Design Patents and Plant Patents. The prime word modifiers, Design and Plant, are used to distinguish between these two types of patent documents. **Modifiers** may be used with class words and prime words to better describe the data elements. However, there should be no more than five modifiers per data name. A common misuse of naming conventions is to overload the name with semantic information that should be captured as a characteristic of the data element. The use of multiple modifiers in a name for purposes of uniquely identifying the data element may be an indication that multiple concepts are represented. It limits potential reuse and sharing.
- A **class word** is used to designate the general category of data described by a data element. A class word is a noun that is, in effect, a shorthand notation for the general domain of the data element. It enhances data element clarity. Examples of class words are Code, Name, and Date.

Appendix C, Authorized Class Words, contains a starter list of authorized class words. The use of class word is required in the data naming convention.

2.3.2 Technical Design Data Element Naming Convention

As the data model moves from logical design to physical implementation, the entity and attribute names from the logical model are transformed into physical tables and columns in the data base. The following set of rules applies for naming the technical design data elements: tables, columns, foreign key columns, primary keys, indices, and referential integrity constraints. The naming convention advocated by the USPTO supports use of the common business name, which leads to “end user friendly” data element names. All examples of the Technical Design Naming Convention are based on the following data model fragment, figure 2.1.

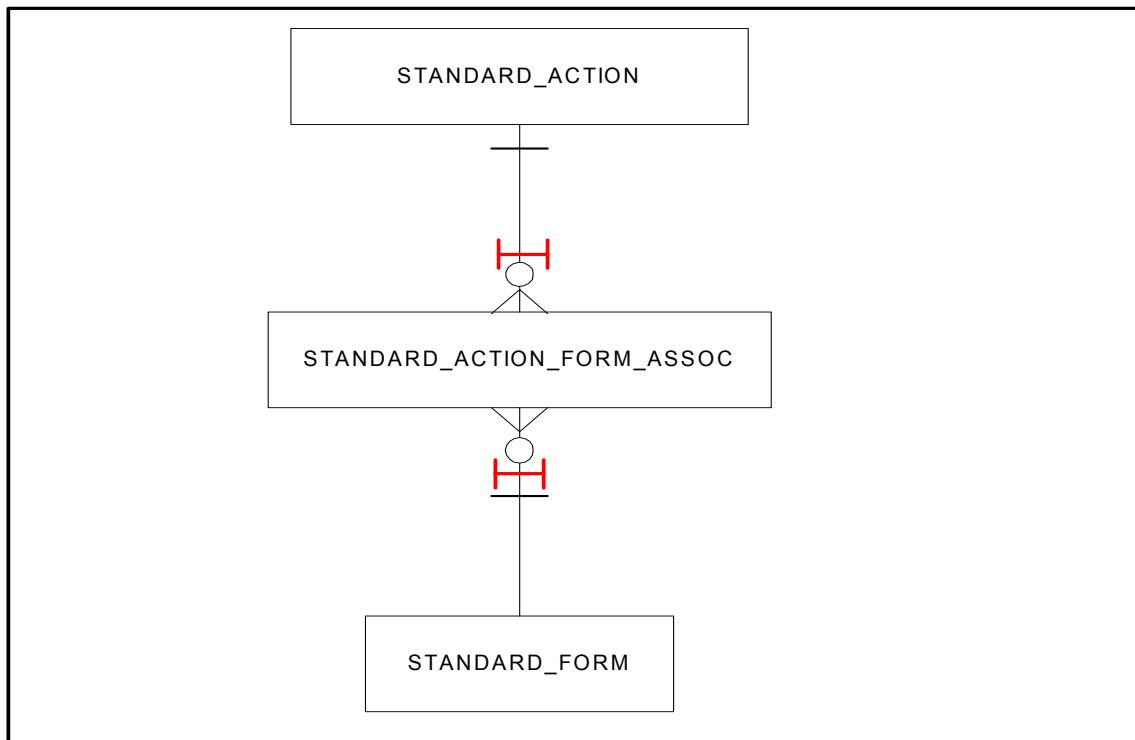


Figure 2.1 Sample of a data model

a) Table Name

The following rules apply to the table names in an Oracle data base.

- Must be no more than 27 characters long;
- Only alphabetic and numeric characters are allowed with an underscore (“_”) between each word;
- Must not be an Oracle reserved word (please refer to appendix E for a complete list of Oracle reserved words);
- When abbreviations are required, always apply the USPTO approved abbreviation as found in appendix D. If there is no applicable abbreviation available, please contact the Data Administration Division (DAD) for assistance in customizing system specific abbreviations;
- Do not include system or sub-system prefixes (such as “PW” for POWER); and
- Use a singular noun.

Example: The entity type STANDARD_ACTION_FORM_ASSOC would transform directly into a table named STANDARD_ACTION_FORM_ASSOC without any modification since it met all the above rules.

b) Column Name

The following rules apply to the column names in Oracle tables.

- Must be no more than 30 characters long
- Only alphabetic and numeric characters are allowed with an underscore (“_”) between each word, however, numbers are not allowed as the first character of a table name.
- Must not be an Oracle reserved word (refer to appendix E for a complete list of Oracle reserved words)
- When abbreviations are required, always apply the USPTO approved abbreviation as found in appendix D. If there is no applicable abbreviation available, please contact the DAD for assistance in customizing system specific abbreviations.
- Class words are mandatory and always abbreviated. Always use the USPTO approved class words found in appendix C.

Naming columns that are being used for the foreign keys, indexes, and referential integrity (RI) constraints must be performed in a top down manner, starting with independent tables before moving to their child tables. The values determined for an independent table’s primary key would influence the refinement or construction of primary keys, foreign keys, and RI constraints for the child tables of those independent tables. The refinement of foreign keys, indexes, and RI constraints

cannot be performed accurately without proceeding in a top-down manner based upon the hierarchies of data base tables.

1) Refinement of Data Structure List Names of Foreign Keys

Foreign key names should be refined before proceeding with the refinements of index and RI constraints, because the results of naming the foreign key will be used for indexes and RI constraints. There will be one foreign key entry for each primary key column for each parent table. The following rules are applied.

- Use prefix “FK” for foreign keys to tables within the project’s domain. Apply this format: FK_<parent table name acronym>_<columnname or column acronym>.
- Use the prefix “CFK” for foreign keys to tables within a Component. Apply the following format: CFK_<source table name acronym>_<column name or column acronym>.
- Use an underscore (“_”) to separate FK prefix, table name acronym, column name, and words within the column name.
- Use an acronym for the parent table name for all foreign key columns and foreign key constraints.
- If the foreign key is longer than 30 characters, use an acronym for the column name.
- If there is an involuted relationship in the table, one foreign key entry will show the table’s primary key column name(s) preceded by FK_<Table acronym>.

If multiple foreign keys are carried into a table from multiple relationships with the same table, include an abbreviation of the relationship name in each foreign key name. This usually occurs in tables that resolve involuted many to many relationships. The format for the foreign key name in this scenario would be: FK_<parent table acronym>_<relationship abbreviation>_<column name>.

Foreign Key Example: The child table STANDARD_ACTION_FORM_ASSOC inherits the identifier of the parent table STANDARD_ACTION through an identifying relationship. The identifier of the parent table STANDARD_ACTION is a column named NO. In this example the foreign key column name in STANDARD_ACTION_FORM_ASSOC would be called **FK_SA_NO**, where FK stands for Foreign Key, SA is the table acronym for STANDARD_ACTION and NO is the column name in the parent table.

2) Refinement of Indexes

Primary indexes are specified in order to uniquely identify rows within tables. Other index types improve the performance of table accesses, but do not always uniquely identify rows within tables. An index may consist of attributes within the table or from another table via a foreign key (relationship), or a combination of both.

- **Primary Key Index:** there will be one and only one Primary Key (PK) Index per table. The PK index contains all columns that are part of the index. The columns that make up the PK index are part of the table and have the identical name as listed in the table. Use the column name(s) associated with the primary key and apply the following format for the primary index: **PK_<full table name>**. Use an underscore (“_”) to separate the “PK” prefix and the table name as well as words within the table name. For example, the primary key index for table INTERFERENCE_CASE will be **PK_INTERFERENCE_CASE**.
- If the indexes created to increase performance, the index will be named with the acronym that identifies the table, plus the identification of the column(s). Apply the following format for this type of index: **I_<table acronym>_<column name or acronym>**. The character limit can not exceed 27 characters because the index names are already referenced in the storage definition name. Use of sequential numbers for index names is prohibited.
- If the business identifier (attributes and/or relationships) is not used for the primary key, then unique key constraints must be used to enforce the business rules that make each row unique. This would be true when a system generated sequential number is used as the primary key for a table. Apply the following format, if there is only one unique key: **UK_<table name>**. If there is more than one Unique Key Constraint (e.g., Employee Number and SSN), use the column name in the Unique Key Constraint name, apply the following format: **UK_<table acronym>_<column name>**.

In both cases, use underscores (“_”) to separate UK prefix and table name and to separate words in the table name.

Primary Key Example: The parent table STANDARD_ACTION is identified by a column named NO. In this example the primary key would be named **PK_STANDARD_ACTION** and would consist of the column NO.

Index Example: The child table STANDARD_ACTION_FORM_ASSOCIATION contains a foreign key from the parent table STANDARD_ACTION. The foreign key name is FK_SA_NO. Since the child table STANDARD_ACTION_FORM_ASSOCIATION will be accessed through this

foreign key, an index is placed on the foreign key to improve the performance of those accesses. The name of the index is **I_SAFA_FK_SA_NO** where I stands for Index, SAFA is the table acronym for STANDARD_ACTION_FORM_ASSOCIATION, and FK_SA_NO is the column name of the index.

3) Refinement of Referential Integrity Constraints

Any given referential integrity (RI) constraint can involve identification of multiple PK columns of multiple successive generations of parents. Due to this reason, use of predefined acronyms for table names is required. Each child table will have a RI constraint. The following format and rules apply to naming the RI constraints.

- RI constraint format: RI_<parent table acronym>_<table acronym>
- Use an underscore (“_”) to separate table names.
- If there are multiple constraints from the same table, use a meaningful name to distinguish between them: RI_<parent table acronym>_<table acronym>_<meaningful name>.

Referential Integrity Example: The table STANDARD_ACTION_FORM_ASSOC contains a Referential Integrity Constraint based on its relationship with the parent table STANDARD_ACTION. In this example, the referential integrity name would be **RI_SA_SAFA**, where SA is the acronym for the parent table STANDARD_ACTION and SAFA is the acronym for the table STANDARD_ACTION_FORM_ASSOC.

2.3.3 Data Element Abbreviation Rules

Sometimes data element names must be abbreviated before they can be implemented in a data base management system (DBMS). Therefore, a set of rules for establishing abbreviated programming names for each data element is necessary. Data Base Management Systems (DBMSs) have different syntax rules making character length of the table and column names dependent on the DBMS used by the system. An abbreviated data element name must be provided for each DBMS that is used at the USPTO. The following procedures are to be followed to establish a standard abbreviation for a data name. For each standard data element, abbreviated program names may be provided. Appendix D lists all approved USPTO abbreviations. The below abbreviation rules are applied to both logical and physical data element names.

-
- a. Determine if any words used in the standard data element name do not have approved abbreviations. Candidate abbreviations need to be developed and submitted along with the proposed standard data element.
 - b. Determine if the word is a candidate for abbreviation:
 1. If the candidate word belongs to an AIS that interfaces with COTS or GOTS, use the product acronym as-is. For example, FFS (Federal Finance System) and POD (Procurement Office Desktop).
 2. If a commonly used abbreviation is identified, select it as the candidate abbreviation. A list of commonly used abbreviations can be found in Appendix D. If a desired abbreviation does not exist in Appendix D, please contact the Data Administration Division staff for assistance in developing a new one.
 3. The Data Administration Division staff will use Rochade to search data structures of the USPTO Oracle data bases to determine if an abbreviation is currently being used in any production system. If no abbreviation is found to be in use at USPTO, then the DAD staff will refer to published references for a commonly used abbreviation. If no commonly used abbreviation is found in published references, the following abbreviation rules will be applied to develop a candidate abbreviation for programming names.
 - Follow the same order as the words in the common business name (although some words may be eliminated).
 - Avoid abbreviating words with four or fewer characters.
 - Avoid abbreviating acronyms.
 - Ensure abbreviations will not duplicate existing acronyms.
 - Avoid hyphens, underscores, or other special characters when abbreviating a single word.
 - Ensure the abbreviation begins with the same letter as the word being abbreviated. The order of letters in the abbreviation should parallel the order of letters in the word.

-
- If the word contains a hyphen, drop the hyphen and derive an abbreviation for the concatenated word. For example, with the word “in-transit,” drop the hyphen and develop an abbreviation for “intransit.”
 - Generally, an abbreviation is formed by eliminating the vowels from a word, unless the word begins with a vowel.
 - If a double consonant appears in the abbreviation, drop one of the consonants. (e.g. Class = CLSS = CLS).
 - If the abbreviation contains a “ck” drop the “c” (except when the “c” begins the word, e.g., Track = TRCK = TRK).
 - Delimiters may be used as dictated by the DBMS (e.g., hyphens).

2.4 Define Data Element for Standardization

The purpose of this process is to support the efficient development of standard data elements. After undergoing these procedures, data elements will be ready to enter the data element standardization approval process.

2.4.1 Approach

There are three basic approaches for discovering information requirements, translating information requirements to data requirements, and specifying those data requirements as standard data elements:

- Top-down data modeling efforts based on information engineering methodology;
- Bottom-up data engineering (reverse engineering) activities associated with systems re-engineering/modernization projects; and
- Some combination of the above.

Regardless of the approach, data modeling techniques should be used to accomplish the following activities and resolve semantic ambiguities:

- Data analysis to discover information requirements;

- Data design to translate information requirements to data requirements; and
- Data definition to specify standard data elements.

The data element standardization procedures in this section focus on the last step (data definition) to specify standard data elements. When entity types and attributes are defined within the general context of a data model, there is greater certainty that redundancy and duplication are avoided. A long range goal of the USPTO data resource management program is to integrate all data requirements into a model which will provide a comprehensive, enterprise-wide view that facilitates data sharing.

2.4.2 Procedures

Regardless of who discovers a specific information requirement or translates it into a general data requirement, the data requirement must be documented and approved using the following procedure. Only then can it be officially specified as a standard data element and made available for use. Rely on automated means, including use of the information repository and the encyclopedia of the USPTO approved I-CASE tool.

Data elements have definitive characteristics that collectively identify, quantify, and qualify facts about the data element itself. The standard facts or metadata that are documented to specify a data requirement as a standard data element are listed below. Please see Appendix B, Data Element Worksheet Attributes Definitions and Instructions, for a description of each metadata item.

- a. [Research existing standard data elements.](#) Examine the enterprise data model and existing data elements and their metadata to determine whether the data requirement is already satisfied by an existing standard data element. Compare the descriptions, names, types, and lengths. This research will be facilitated by use of the information repository after its implementation.
- b. [Identify potential matches.](#) Identify data elements having the required characteristics that match or approximate the intended attribute values--metadata--of the data element under development.
- c. [Resolve potential matches.](#) From those identified as potential matches that cannot be resolved, complete the domain definition and analyze each data element having a domain that either matches, includes all of the values of (superset), or approximates the intended domain of the data element under development. If more than one such element is identified, determine which best represents the data element under development.

- d. [If matched, use existing standard data element.](#) Select the data element from the previous step having mandatory characteristics nearest those of the data element under development. This procedure should result in no more than one candidate standard data element. Prepare and submit the additional metadata required to register a new application of an existing data element.
- e. [If unmatched, complete definition.](#) If no existing standard data element could fulfill the requirements of the data element under development, start development of the new data element by following these steps.
 - [Gather necessary documentation.](#) Collect any available documentation that may provide information for or assist in completing the standard definition of the data element(s) proposed for standardization. Primary sources of information for developing a standard data element include the following.

Information Repository
Cool:Gen Client/Server Encyclopedia
Enterprise Data Model
Business Area Data Models and Process (Activity) Models
Data Dictionaries
Automated Information System Documentation
USPTO Standard Forms
Strategic and Information Technology Plans
Federal Information Processing Standards (FIPS)
Dictionary of Business Terms
U.S. Patent and Trademark Office Directives

- [Develop data element definition worksheet.](#) Prepare a data element worksheet (see Appendix B, Data Element Characteristics, Definitions, and Worksheet Instructions) to document the data element metadata. Following the rules in Section 2.2, Design Data Element and Section 2.3, Define Data Element Naming Rules, develop the data element design and name. The worksheet includes the following metadata as follow.

Submitter's Name
Submission Date
Phone Number
Office
Automated Information System
Common Business Name

Candidate Data Element Name
Data Element Disposition
Data Element Description
Type
Length/Precision
Format
Domain Description
Domain Range
Domain Values
Model Reference(s)
Other Source
Mission Area Reference
Business Area Reference
Alias(es)
SGML/XML Tag
Standard Abbreviated Programming Name
Existing Programming Name(s)
Authority
Sensitivity Level
Data Structure Reference
Unit of Measure Reference
Integrity Rules
Business Data Steward
Operational Data Steward
Technical Data Steward

- f. Submit the worksheet for approval in accordance with the procedures in Section 2.5, Approval and Maintenance Process

2.5 Approval and Maintenance Process

This section describes the process leading to approval of USPTO standard data elements: 1) submission, 2) review, 3) coordination, 4) approval, and 5) maintenance.

1. Under optimum conditions, the data element worksheets are developed by the Data Administration Division in concert with a data modeling effort. After the data element design and definition work is complete, the proposed standard data element is submitted to the Data Administrator.
2. Data Administration Division staff conducts a careful review to ensure quality data element design and definition. A verification procedure is used to guard against data redundancy. This includes searching and comparing such metadata

-
- characteristics as the data description, domain, and source. The scope of the expected use of the proposed standard data element will guide the submitter and Data Administrator in determining who should be included in the review process.
3. The Data Administrator consults with the data steward(s) and resolves/finalizes any data issues and conflicts. The Data Administrator has final authority over any data element standardization conflicts.
 4. Once a data element is established as a standard data element, it is recorded in the information repository and will be used in Automated Information Systems to the fullest extent possible.
 5. After approval, the standard data element enters a maintenance phase in which any proposed changes to the standard data element must be submitted through the approval process.

3. CONTENT AND FORMAT

3.1 Documentation Standards

The naming of logical data elements is required to follow the conventions as described in section 2.3.1. The associated technical design names are defined based on the conventions described in section 2.3.2. The USPTO Data Element Definition Worksheet shall be completed in accordance with the standards described in this document. At a minimum, all USPTO business data elements defined in the Detailed Design Document should be standardized.

3.2 Evaluation Criteria

Listed below are evaluation criteria for defining an appropriate logical and technical design name and preparing the Data Element Definition Worksheet to be used during the Detailed Analysis and Designed process of the life cycle.

3.2.1 Logical Design Data Element Checklist

- Adherence to syntax rules
- Adherence to semantic rules
- Adherence to structure of data naming conventions.

3.2.2 Technical Design Data Element Checklist

- a) Table Name
 - The length must not exceed 27 characters;
 - There are no spaces between words in the name. All spaces must be filled by the underscore (“_”) character;
 - Must not be an Oracle reserved word;
 - Must not have plural noun and;
 - No sub-system prefixes.
- b) Column Name
 - The length must not exceed 30 characters.
 - There are no spaces between words in the name. All spaces must be filled by the underscore (“_”) character;
 - Must not be an Oracle reserved word;
 - Class word is always abbreviated;
 - No system or sub-system prefixes.

3.2.3 Data Element Definition Worksheet

Yes	No	Evaluation Criteria
Completeness checking:		
		Are all standard metadata items such as submitter's name, submission date, submitter's phone number, office, name/acronym of Automated Information System, common business name, proposed data element name, data element description, type, length, and business area reference identified?
		Are all metadata items identified and cross-referenced to identified procedures from the <i>Data Element Naming Conventions and Standardization</i> Technical Standard and Guideline?
Correctness checking:		
		Does the data element's proposed name follow the naming convention guideline (as explained in this document) if the common business name is not used?
		Is the data element description clear and complete?
		Does the metadata item for length/precision provide the maximum number of characters or digits to accommodate the longest instance of the data element and the decimal precision if applicable?
		Are all sources for the data element provided?
		Is the data element's domain value clearly specified?
		Are all of the metadata items that are used in its design defined in the Detailed Design documents?
		Are the data element business rules described?
		Is the source data model named in the worksheet?
		Is the USPTO mission area that uses the proposed standard data element provided?
Consistency checking:		
		Does the proposed standard data element map properly to other data models?

3.3 Estimating Procedures

The Data Administration Division, Office of Data Management, may provide assistance in estimating effort, duration, and resources necessary for naming the data elements and preparing the Data Element Standardization Worksheets.

Tools that may be used for recording effort, duration, and resources necessary for Data Element Standardization include the following COTS packages:

- a. Automated Program Management System
- b. Microsoft Project

3.4 Product Dependencies

The documentation governed by this standard will also rely on the content of other project deliverables and/or standards such as the Data Management Plan and the Detailed Design Document.

3.4.1 Preceding Products

The preceding products for data element naming conventions and standardization are the Business Case, System Boundary Agreement and the Concept of Operations. These three documents are required to identify both existing data elements and new data elements needed. The System Boundary Agreement captures the business functions, objective and goals that the Automated Information System project will satisfy. The Concept of Operations provides information about system background, products, system processes that involved legacy data elements as well as new data elements.

3.4.2 Concurrent Products

The data element naming conventions and standardization processes are done concurrently with, and dependent upon, the Requirements Traceability Matrix, the Requirements Specification document (part 1 and 2), the Detailed Design document, and the Interface Design Definition document.

APPENDIX A

SAMPLE OF LOGICAL AND PHYSICAL DATA ELEMENT NAMING CONVENTIONS

This appendix provides a sample of data naming convention of entity types and attributes from a logical data model to tables and columns in a physical data base.

Figures A-1 and A-2 show three related entities patterned after the ACTS 3.0 logical data model.

INTERFERENCE CASE (PK = CASE_NO) is the parent of:

INTERFERENCE CASE HEARING (PK = PHASE_CD + Relationship to INTERFERENCE_CASE) is the parent of:

COURT OF APPEAL (PK = DA_SEQUENCE_NO + Relationship to INTERFERENCE_CASE_HEARING + Relationship from CASE_HEARING to INTERFERENCE_CASE).

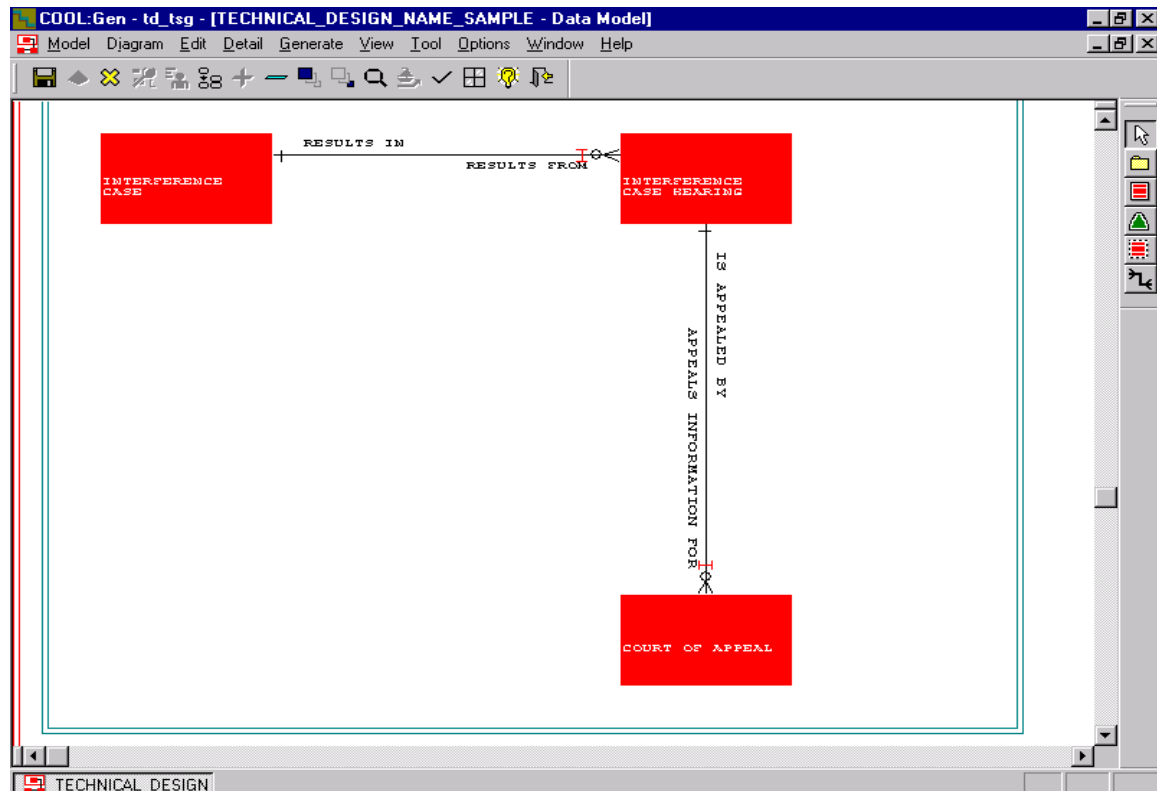


Figure A-1 Sample Entity Relationship Diagram

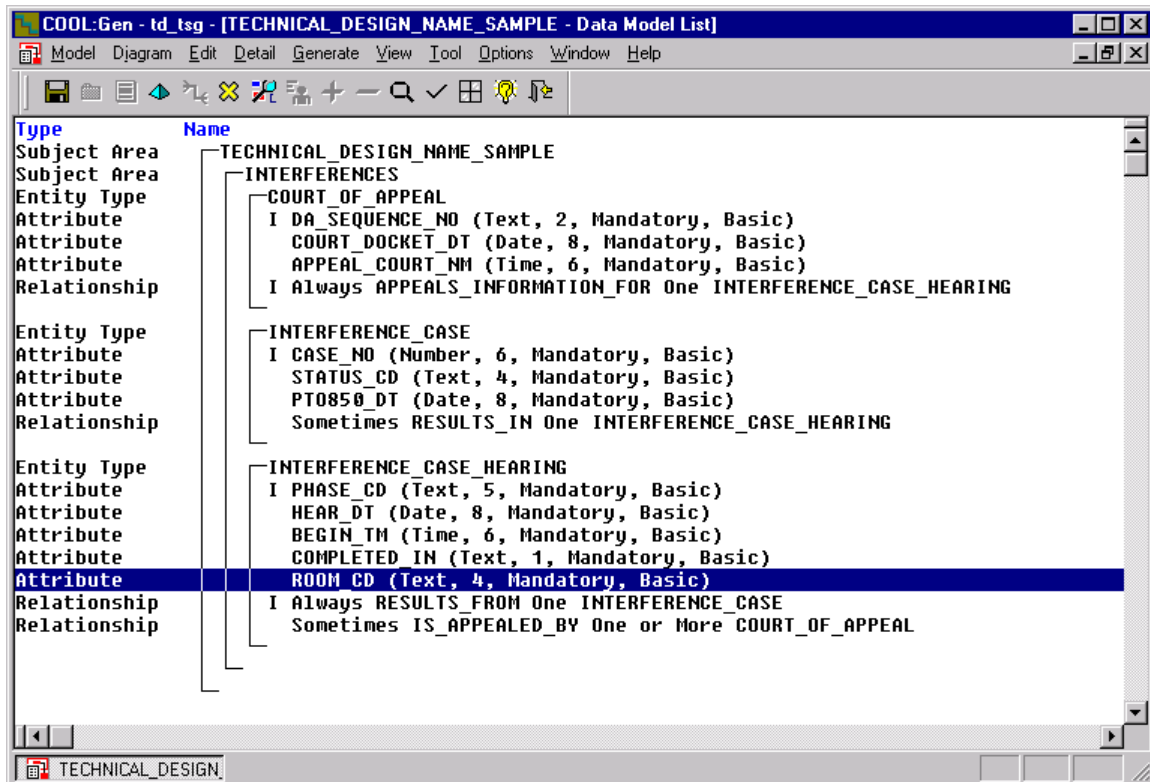


Figure A-2 Sample Data Model List

Figure A-3 contains the preliminary results of the Technical Design and Transformation processes.

Type	Name	
Table	+--INTERFERENCE_CASE	
Column	STATUS	4
Column	PTO850_DT	8
Column	CASE_NO	6
Index (U)	+- PKINTERFERENCECASE @ (Primary)	
Column	CASE_NO	6
	+-	
	+--	
Table	+--INTERFERENCE_CASE_HEARING	
Column	COMPLETED_IN	1
Column	BEGIN_TM	6
Column	HEAR_DT	8
Column	ROOM_CD	4
Column	PHASE_CD	5
FK Column	FK_INTERFERENCECASE_NO *	6
RI Constraint	<No Name> INTERFERENCE_CASE #	
Index (U)	+- PKCASEHEARING @ (Primary)	
Column	FK_INTERFERENCECASE_NO	6
Column	PHASE_CD	5
	+-	
	+--	
Table	+--COURT_OF_APPEAL	
Column	COURT_DOCKET_DT	8
Column	APPEAL_COURT_NM	20
Column	DA_SEQUENCE_NO	2
FK Column	FK_INTERFERENCEFK_INTERFERENCE *	6
FK Column	FK_INTERFERENCEPHASE_CD *	5
RI Constraint	<No Name> INTERFERENCE_CASE_HEARING #	
Index (U)	+- PKCOURTOFAPPEAL @ (Primary)	
Column	FK_INTERFERENCEFK_INTERFERENCE *	6
Column	FK_INTERFERENCEPHASE_CD *	5
Column	DA_SEQUENCE_NO	2
	+-	
	+--	

NOTES
@ Words not separated in Primary Key Index and no “_” after “PK”.
*** Words not separated in Foreign Key and combined lengths over 30 characters are arbitrarily truncated.**
Referential Integrity Constraints not named and joining columns not identified.

Figure A-3 Technical Design Naming Data List

The NOTES with Figure A-3 identify some deficiencies in the default naming performed by COOL:Gen.

In preparation for refining the Technical Design names in the sample model, a working table reference was constructed as suggested in Step 3, Part2 of the Technical Design process. Table B-1 shows the results.

Table A-1 Sample Working Table Reference

Table Name	Table Acronym/ Abbreviation ³	Table Primary Key	Parent Table
INTERFERENCE_CASE	IC	• CASE_NO	None.
INTERFERENCE_CASE_HEARING	ICH	• PHASE_CD • INTERFERENCE_CASE.CASE_NO	• INTERFERENCE_CASE
COURT_OF_APPEAL	COA	• DA_SEQUENCE_NO • INTERFERENCE_CASE_HEARING.PHASE_CD • INTERFERENCE_CASE_HEARING (INTERFERENCE_CASE.CASE_NO)	• INTERFERENCE_CASE through INTERFERENCE_CASE_HEARING

The sample Refined Data Structure List is shown in Figure A-4.

The table/column names are the same as the Data Model List entity type/attribute names.

³ Abbreviation if one-word table name, otherwise, initials of words in table name.

Type	Name
Table	+--INTERFERENCE_CASE
Column	STATUS_CD
Column	PTO850_DT
Column	CASE_NO
Index (U)	+-PK_INTERFERENCE_CASE (Primary)
⇒ <u>Index/Primary Key: Insert " " into the Index name.</u>	
Column	CASE_NO
	+-
	+-
Table	+--INTERFERENCE_CASE_HEARING
Column	HEARING_TM
Column	COMPLETED_IN
Column	BEGIN_TM
Column	HEAR_DT
Column	ROOM_CD
Column	PHASE_CD
FK Column	FK_IC_CASE_NO
⇒ <u>Foreign Key Column: Use Parent Table Acronym and insert " ".</u>	
RI Constraint	RI_IC_ICH
<u>RI Constraint: Insert "RI ", <Parent Table Acronym> <Child Table Acronym></u>	
Index (U)	+-PK_CASE_HEARING (Primary)
⇒ <u>Index/Primary Key: Insert " " into Index name.</u>	
Column	FK_IC_CASE_NO
⇒ <u>Index/Primary Key Column: Use Parent Table Acronym and insert " ".</u>	
Column	PHASE_CD
	+-
	+-
Table	+--COURT_OF_APPEAL
Column	COURT_DOCKET_DT
Column	APPEAL_COURT_NM
Column	DA_SEQUENCE_NO
FK Column	FK_ICH_FK_IC_CASE_NO
⇒ <u>FOREIGN Key Column: FK from INTERFERENCE CASE HEARING (ICH), which for INTERFERENCE CASE HEARING is an FK from INTERFERENCE CASE (IC), and the name of the</u>	
<u>INTERFERENCE CASE Primary Key column is CASE NO.</u>	
FK Column	FK_ICH_PHASE_CD
⇒ <u>FOREIGN Key Column: FK from INTERFERENCE CASE HEARING (ICH) and the column name is PHASE CD.</u>	
RI Constraint	RI_ICH_COA_FIFICN_FIPC
<u>RI Constraint: Insert "RI ", <Parent Table Acronym> <Child Table Acronym></u>	

Figure A-4 Sample Refined Data Structure List

APPENDIX B

DATA ELEMENT DEFINITION WORKSHEET

ATTRIBUTES & INSTRUCTIONS

This appendix contains the definitions of data element attributes as defined in the USPTO Data Element Definition worksheet and instructions how to prepare a worksheet. The heading on the worksheet is the placeholder for the candidate standard data element name as well as the standard data element name in the event the worksheet is used to revise a standard data element's metadata attributes.

USPTO Data Element Definition Worksheet

(Name of Candidate or Standard Data Element)	
1.	Submitter's Name:
2.	Submission Date:
3.	Phone Number:
4.	Office:
5.	Automated Information System(s):
6.	Common Business Name:
7.	Candidate Data Element Name:
8.	Data Element Disposition:
9.	Data Element Description:
10.	Type:
11.	Length/Precision:
12.	Format:
13.	Alias(es):
14.	Domain Description:
15.	Domain Range:
16.	Domain Values:
17.	SGML/XML Tag:
18.	Standard Abbreviated Programming Name:
19.	Existing Programming Name(s):
20.	Authority:
21.	Sensitivity Level:
22.	Data Structure Reference:
23.	Unit of Measure:
24.	Integrity Rules:
25.	Model Reference(s):

26.	Other Source:	
27.	Mission Area Reference:	
28.	Business Area Reference:	
29.	Business Data Steward:	
30.	Operational Data Steward:	
31.	Technical Data Steward:	

Below are definition of each attribute and instructions on how to enter information on the Data Element Definition Worksheet.

1. **Submitter's Name.** The name of the person submitting the worksheet. Identify and enter the name of the submitter.
2. **Submission Date.** Enter the current date. Show it as Month XX, Year (e.g., January 17, 1996).
3. **Office Phone Number.** Enter the submitter's telephone number.
4. **Office.** The name of the office of the person submitting the proposed standard data element. This is likely to begin at the executive level and decompose to the actual office. Enter the submitter's office.
5. **Automated Information System(s).** The Automated Information System(s) which will use or create the proposed standard data element or already uses in the case of a legacy data element (e.g., U.S. Patent Text Data Base and USPAT). Enter the name of the AIS.
6. **Common Business Name.** The optimum and simplest name for a data element is the common business name of the real-world object that it represents. When there is wide acceptance and clear and unambiguous understanding of the common business name across the enterprise, the data element should assume the same name. Enter the common business name.
7. **Candidate Data Element Name.** Lacking a clear and unambiguous business name, this is a name for the data element developed by applying the naming convention. Enter the proposed data element name you are submitting for standardization.
8. **Data Element Disposition.** The final disposition of this data element review. This is completed by the Data Administrator. The default value will always be draft.

-
9. **Data Element Description.** Text designating what the data element is and distinguishing it from all other similar data elements. Describe the data element by designating what it is and distinguishing it from all other similar data elements.
 10. **Type.** The data type used by the Data Base Management System that houses the data element. Examples are numeric, alphabetic, alphanumeric, date, currency, or time. Numeric data may be integer, decimal, or floating point. Alphabetic or alphanumeric data may be fixed or variable in character length. Enter the data type used by the Data Base Management System that houses the data element.
 11. **Length/Precision.** The data element length as the maximum number of characters or digits required to accommodate the longest instance of the data element. (Use "Variable" for variable length data elements.) For numeric fields, the precision by the total number of digits and number of digits to the right of the decimal point (e.g., 123.45 would be 5,2 and for ABC type/length is CHAR 3). Enter the maximum data element length
 12. **Format.** The format for the data element (e.g., yyyyymmdd). Enter the appropriate format for the data element.
 13. **Alias(es).** List all known synonyms for the data element that are in current usage as aliases.
 14. **Domain Description.** Enter the general description of the overall meaning or general characteristics of the data element domain if applicable.
 15. **Domain Range.** The beginning and ending values of the allowable range if a quantitative general domain exists for the proposed standard data element (i.e., data element low-range identifier and data element high-range identifier). General domains are those where a large range of values are valid (e.g., for data element Platter Number, valid range would be 1-9,999). Enter the range of the data element domain.
 16. **Domain Values.** The values allowable for the proposed standard data element along with their meaning (e.g., M--male, F--Female, for data element Gender Code). The specific class word code. Each value (data element domain value identifier) and a description for each value (data element domain value description text). All code values and their meaning must be documented. List the values allowable for the proposed standard data element.
 17. **SGML/XML Tag.** The Standard Generalized Mark-up Language (SGML) or eXtensible Markup Language (XML) tag(s) that maps to the data element. Please refer to the Standard Generalized Markup Language and eXtensible Markup

-
- Language Resource Management Guideline, IT-212.2-05: TN01 document for more information. Identify all the tags if the data element maps to more than one.
18. **Standard Abbreviated Programming Name.** The standard abbreviated data element name used in programming, employing the standard abbreviation procedures adopted by the USPTO. Enter the standard abbreviated data element name.
 19. **Existing Programming Name(s).** Any existing programming names used for this data element. Enter the standard abbreviated data element name.
 20. **Authority.** The official USPTO policy, directive, regulation, instruction or other document(s) that mandates and or authorizes the data element. Cite the official source.
 21. **Sensitivity Level.** The data sensitivity level. The choices include High, Medium, and Low. An assessment of confidentiality, integrity, and availability requirements is necessary to make this decision. In general, High equates to critical, Medium to an important concern, and Low to the need for only minimal security. Please refer to the *Security* Technical Standard and Guideline. Identify the data sensitivity level.
 22. **Data Structure Reference.** If the proposed data element is a parent, the children in the parent-child relationship (e.g., for the data element Birth Date (the parent), enter “Birth Month,” “Birth Day,” and “Birth Year” as the children). If the proposed data element is a child, the parent name (e.g., for data element “Birth Month” enter “Child of Birth Date”). This attribute is only applicable when documenting modification to a physical data element. Enter the data reference structure if any.
 23. **Unit of Measure.** The unit of measure for the data element if applicable (e.g., Date). Enter the unit of measure for the data element if applicable (e.g., Date).
 24. **Integrity Rules.** Any business rules that constrain instances of the data element that depend on other data elements and specify the nature of the constraints (e.g., if Contract Item Type = UN (unnumbered), system will assign a number starting with 1001 in Contract Item Number for sorting purposes). Describe the business rule if there are any.
 25. **Model Reference(s).** The data model upon which the data element is based, if any. Model-based data element standardization is a USPTO policy. The system/life cycle that uses the proposed standard data element, e.g. PGPub-Concept Phase. Identify the name of the data model(s).

26. **Other Source.** The source of the data element, such as an existing application, if it is not model-based, or in addition to being model-based. Identify the data element sources that are not part of the Authority field as described above.
27. **Mission Area Reference.** The USPTO mission area(s) that create or use the data element. These are the functional areas identified by the USPTO Office of Business Process Re-engineering and the Enterprise Model as Patents, Trademarks, Dissemination, Corporate, and Infrastructure. Enter the mission area that the data element is created or implemented.
28. **Business Area Reference.** The USPTO business areas that use this data element. Enter the business area(s) that belong to the Mission Area as identified in item 27. For example, Patent Application Processing.
29. **Business Data Steward.** The person(s) who is ultimately responsible for the business data. Enter the Business Data Steward's name, title, telephone number, and address.
30. **Operational Data Steward.** The person(s) who is responsible for the content and business rules surrounding the data element. Enter the Operational Data Steward's name, title, telephone number, and address.
31. **Technical Data Steward.** The person(s) who is accountable for the technical infrastructure supporting the processing requirements. For example System Development Managers, System Maintenance Managers, Data Base Administrators, and Data Maintenance Branch/Operations. Enter the Technical Data Steward's name, title, telephone number, and address.

Sample Completed Data Element Worksheet

COUNTRY Code	
1. Submitter's Name:	Kathryn Tindle
2. Submission Date:	July 20, 2000
3. Phone Number:	703-308-7395
4. Office:	Office of Data Management, Data Administration Division
5. Automated Information System(s):	Enterprise Address Data Component Application Capture and Review System PALM MG Pre-Exam Patent Application Capture and Entry PCT Operations Workflow and Electronic Review Revenue Accounting Management System Electronic Application Compliant System
6. Common Business Name:	Country Code
7. Candidate Data Element Name:	COUNTRY Code
8. Data Element Description:	The code that represents the officially designated abbreviation for a country according to the International Organization for Standardization (ISO) under International Standard 3166-1.
9. Data Element Disposition:	Standard
10. Type:	Alphabetic
11. Length/Precision:	CHAR 2
12. Format:	N/A
13. Alias(es):	N/A
14. Domain Description:	N/A
15. Domain Range:	N/A
16. Domain Values:	Please refer to the International Standard 3166-1 from the International Organization for Standardization (ISO). These approved codes for use at PTO are stored in the PTO STND COUNTRY group based on the PTO STND ISO 3166-1 table. Note: The World Intellectual Property Organization works closely with ISO so the WIPO country codes are the same as the ISO codes for countries.
17. SGML/XML Tag:	CTRY, B130
18. Standard Abbreviated Programming Name:	N/A

19.	Existing Programming Name(s):	CTRY_CD COUNTRY_CODE
20.	Authority:	ISO 3166-1 WIPO ST.3
21.	Sensitivity Level:	Low
22.	Data Structure Reference:	N/A
23.	Unit of Measure:	N/A
24.	Integrity Rules:	Since WIPO ST.3 includes both country codes and international patent organization abbreviations, only the country codes portion of the list are allowed into this address domain.
25.	Model Reference(s):	1) EADC_R01_V02_DANL_A_X of COOLCSE1 2) ICT2_R02_V03_CMPI_A_O of COOLCSE1 3) ICT2_R02_V03_CMPS_A_O of COOLCSE1 4) IEA1_R01_V06_CMPS_A_O of COOLCSE1 5) IEA1_R01_V07_CMPI_A_O of COOLCSE1
26.	Other Source:	APS Green Book Page 3 EFID Dictionary Field 3.32c, Page 151 Field 3.33e, Page 158 Issued Patents Data Dictionary Page A-34 PALM Data Dictionary Page 420 USPAT Reload Data Base Specification Page D-41
27.	Mission Area Reference:	Dissemination, Patents, Trademarks
28.	Business Area Reference:	Dissemination, Patents, Trademarks
29.	Business Data Steward:	Name: Robert Saifer Title: Director, International Liaison Staff Phone: Crystal Park Three, Suite 902 Address: 703-308-6853
30.	Operational Data Steward:	Name: Ed Rishell Title: International Liaison Staff Phone: 308-6867 Address: Crystal Park Three, Suite 902
31.	Technical Data Steward:	Name: Phong Ly Title: Manager, System Development Infrastructure Phone: 305-8719 Address: Crystal Park Three, Suite 402

APPENDIX C

AUTHORIZED CLASS WORDS

Class words are nouns that prescribe a definition for a general category of data. Examples of USPTO class words are “Code,” “Identifier,” and “Text.” The USPTO has adopted the CALS/National Data Administration Council recommended “starter set” of class words, with some refinements based on inputs from the USPTO system developers. This concluded set of class words, along with their abbreviations and definitions, appears below. Prime words can be Class words when the modifier of the attribute is used in the entity type name. Most common exceptions are for code, date, amount, and number. For example, Interference Status is an entity type that contains two attributes: Code and Date, not Status Code and Status Date. The use of class words is mandatory under this naming convention. It is recommended they be used to add clarity and meaning to the data element name.

Class Word Name & Abbreviation	Definition and/or Definition Structure
Amount--AM	<p>A monetary value (includes Average, Balance, Deviation, Factor, Index, Level, Mean, Mode, Scale, and Yield).</p> <p>The data element definition should begin “The monetary value of”</p>
Category--CT	<p>A specifically defined division or subset in a system of classification in which all items share the same concept of taxonomy.</p> <p>The standard data element definition should begin: “The category of”</p>
Code--CD	<p>A combination of one or more numbers, letters, or special characters, which is substituted for a specific meaning. Represents finite, predetermined values. (Must have a specific domain.) (Includes: Status, Abbreviation.)</p> <p>The standard data element definition should begin: “The (modifiers) code that represents and/or denotes a”</p>

Class Word Name & Abbreviation	Definition and/or Definition Structure
Date--DT	<p>The notion of a specific period of time.</p> <p>The standard data element definition should begin: “The (modifiers) date of and/or when and/or on which a”</p>
Dimension--DI	<p>A measured linear distance (one dimension). (Includes: Altitude, Depth, Diameter, Distance, Elevation, Height, Length, Radius, Width, and Vertex.)</p> <p>The standard data element definition should begin: “The dimension (length, width, height, radius, and elevation, etc.) of and/or from”</p>
Identifier--ID	<p>A combination of one or more integers, letters, special characters which designate a specific object/entity, but which have no readily definable meaning. (Must have a general domain.) (Includes: Designator, Key, and Number.)</p> <p>The standard data element definition should begin: “The (modifiers) identifier that represents”</p>
Indicator--IN	<p>A signal of the presence, absence, or requirement of something. Recommend permitted values are Yes, No, and “?” if needed.</p> <p>The standard data element definition should begin: “The indicator which signals the (presence, absence, or requirement) of”</p>
Name--NM	<p>The designation of an object/entity expressed in a word or phrase.</p> <p>The standard data element definition should begin: “The name of”</p>
Number--NO	<p>Numeric characters that identifies specific object or entity.</p> <p>The standard data element definition should begin: “The (modifiers) number of”</p>
Percent--PT	<p>A part of a whole expressed in hundredths.</p> <p>The standard data element definition should begin: "The percentage of".</p>

Quantity--QT	<p>A total number which may be determinate or estimated.</p> <p>The standard data element definition should begin: "The total number of".</p>
Rate--RT	<p>A quantity, amount, or degree of something in relation to units of something else (e.g., miles/gallon). ”</p> <p>The standard data element definition should begin: “The rate of”</p>
Term--TR	<p>The specific length of time characterized by the occurrence of certain conditions or events of an object or entity.</p> <p>The standard data element definition should begin: “The term of”</p>
Text--TX	<p>An unformatted character string, generally in the form of words. (Includes: Abbreviation, Comments.)</p> <p>The standard data element definition should begin: “The text of”</p>
Time--TM	<p>A designation of a specified chronological point within a period.</p> <p>The format for Time is HH:MM:SS.</p> <p>The standard data element definition should begin: “The time of”</p>
Timestamp -- TS	<p>The captured date and time of an event when it occurs.</p> <p>The format for Timestamp is YYYYMMDDHH:MM:SS.</p> <p>The standard data element definition should begin: “The date and time of”</p>
Weight--WT	<p>The force with which an object is attracted toward the earth and/or other celestial body by gravitation.</p> <p>The standard data element definition should begin: “The weight of”</p>

APPENDIX D

STANDARD ABBREVIATIONS

This appendix contains a list of all abbreviations being used in the USPTO data bases and systems. All system developers are strongly recommended to use these abbreviations as appropriate when naming data elements. Please consult the DAD to customize system specific abbreviation.

The Standard Abbreviations listing was originally compiled using the abbreviations already in use in the PALM, TRAM and RAM systems. The abbreviation list continues to grow as more AIS using the abbreviations recommended by the DAD. The list has been modified by acronyms being used in the TEAM, EXPO, Travel Manager, TIS, ACTS, POWER, EFS, Pre-Exam, OEDIS, Data Warehouse, OEMS, DBRIDGE, TTAB, and JARS.

When there is a conflict between the systems, a determination on the abbreviation most widely used in the USPTO data bases is made by the Data Administration Division. A search on the word to be abbreviated and common abbreviations is done on all applicable data bases and data models using the Rochade software. In addition, the DAD uses the reference books, Acronyms, Initialisms & Abbreviations, and Reverse Acronyms, Initialisms & Abbreviations, published by the Gale Research Company, 1996 and republished in 1999 to determine if there is a commonly used abbreviation. In most cases, the abbreviation that is most prevalent in the USPTO data bases is selected as the standard abbreviation.

The list of abbreviation is a living document. It will continue to get updates periodically as more AISs using the abbreviations or developing new ones. This list can be accessed from the USPTO central repository, Rochade. Please contact the Data Administration Division staff for a most update listing of abbreviations.

TERM	APPROVED ABBREVIATION
abandonment	ABANDM
absence	ABSC
accepted	ACPTD
account	ACCT
accounting	ACCTG
acknowledge(d)	ACKD
acquisition	ACQ
action	ACTN
active	ACTV

address	ADDR
adjust	ADJST
advance	ADV
advanced	ADVD
advancement	ADVDM
affixed	AFXD
agency	AGNCY
agent	AGNT
allocate, allocated, allocation	ALLOC
allow	ALLW
allowance	ALLWNC
allowed	ALLWD
alter	ALT
altered	ALTD
amend/amended	AMND
amendment	AMNDM
amount	AM
another	ANOTH
answered	ANS
answered	ANSD
anywhere	ANYWHR
appear	APER
appearance	APERNC
approval	APRVL
approver	APRVR
assessment	ASMNT
assign	ASGN
assignee	ASNE
assignment	ASGMT
assignor	ASNR
association	ASSOC
atomic	ATOM
attempts	ATTMPTS
attention	ATTN
attorney	ATTY
audit	AUDIT
authority	AUTH
auxiliary	AUX
available	AVAIL
balance	BAL
basis	BASIS
begin/beginning	BGN
breakfast	BRKFST

brief	BRF
building	BLDG
business	BUS
cancel	CNCL
category	CT
certificate	CERT
change	CHNG
character	CHAR
charge	CHRG
check	CHK
checked	CHKD
checking	CHKG
checkpoint	CHKPT
child	CHLD
citation	CITA
claim	CLM
claimed	CLMD
claims	CLMS
class	CLS
classification	CLSFCN
classify	CLSFY
clear	CLR
close	CLOS
code	CD
collect	COLL
collective	CLCTV
comment	CMNT
commerce	COM
commit	COMM
completion	COMPLTN
compose	COMPOS
composition	COMPOSTN
concurrent	CNCR
consult	CONSLT
consultation	CONSLTN
consulted	CONSLTD
contact	CONTC
continue	CONT
control	CNTRL
convention	CNVNTN
conveyance, conveying	CONVEY
copy	CPY
correctness	CRCTNS

correspondence, corresponding	CORR
count	CNT
counter	CNTR
country	CTRY
credit	CR
credit card	CR_CARD
current	CUR
customer	CUST
daily	DLY
data	DATA
date	DT
deactivated	DACTV
decided	DECD
decision	DCSN
declaration	DEC
delete	DEL
deleted	DELD
deliver	DLVR
denormalized	DN
dependent	DPNT
deposit	DEP
description	DESC
destination	DEST
detail	DTL
dimension	DIMSN
dinner	DNNR
disclaimer	DSCLMR
display	DSPLY
disposal	DSPL
disposition	DSPSTN
dissemination	DIS
distinctive	DISTNCTV
distinguish	DISTING
divide	DIV
divided	DIVD
division	DIVSN
docket	DKT
docketed	DKTD
document	DOC
domestic	DOM
drawer	DWR
drawing	DWG
due	DUE

duration	DUR
effective	EFCTV
elapsed	ELPSD
election	ELCTN
electronic	ELCTRN
Electronic mail	EMAIL
employee	EMPE
employer	EMPR
enclosure	ENCL
end	END
entered	ENTRD
entity	ENTITY
entry	ENT
error	ERR
estimate	EST
event	EVNT
examine	EXM
examiner	EXMR
execution	EXC
excused	EXCSD
expected	EXPCTD
expense	EXPNS
expiration	EXPIRTN
expire	EXPIR
expired	EXPIRD
express	EXP
extension	EXT
facsimile	FAX
family	FMLY
fee	FEE
field	FLD
file	FIL
filed	FILD
filing	FILG
final	FNL
first	FRST
flag	FLG
foreign	FRGN
form	FORM
formal	FRML
formality	FRMLTY
former	FRMR
forward	FWRD

found	FND
freeze	FRZ
fulltime	FT
generation	GEN
give/given	GIVN
goods	GDS
goods and services	GDS-SRVC
government	GOVT
granted	GRNTD
group	GRP
history	HIST
holder	HLDR
holiday	HOLI
identifier	ID
inactivate	INACTV
inactive	INACTV
include/included	INCL
income	INCM
independent	INDP
index	IDX
indicator	IN
informal	INFRML
informality	INFRMLTY
information	INFO
infrastructure	INFRA
inquiry	INQ
inspection	inspctn
interest	INTRST
interface	INTFC
interference	INTF
international	INTL
Internet	INTRNT
invention	INVN
inventor	INV
invoice	INVC
issue	ISS
jacket	JKT
journal	JRNL
key	KEY
label	LBL
lapse	LPS
last	LAST
legal	LGL

length	LEN
less	LESS
letter	LTR
license	LIC
life	LIFE
line	LINE
list	LIST
litigation	LIT
location	LOC
lodging	LDGNG
lost	LOST
lunch	LNCH
mailing	MLG
mailroom	MLRM
MARK	MRK
maximum	MAX
merit/merits	MRT
message	MSG
method	MTHD
middle	MID
miscellaneous	MISC
modification	MOD
more	MORE
multiple	MULT
name	NM
new	NEW
note	NOTE
notification	NTFCN
notify	NTFY
number	NO (NUM is used for Serial Number or Registration Number)
office	OFC
official	OFCL
open	OPN
opposition	OPSTN
order	ORD
organization	ORG
original	ORIG
others	OTH
outstanding	OUTSTDG
overdraft	OVDFT
overflow	OVF

override	OVRD
overtime	OVRTM
owners	OWNR
page	PG
pages	PGS
paid	PD
paragraph	PARA
parent	PARNT
password	PSWD
patent	PAT
paternity	PATRNTY
payment	PYMNT
payor	PYR
performance	PRFRMNC
period	PER
petition	PET
physical	PHYS
point	PT
position	PSTN
post	PST
postal	PSTL
posting	PSTNG
potential	POTNL
preference	PREF
preferred	PREF
prefix	PRFX
preliminary	PRELIM
previous	PREV
price	PRC
primary	PRMRY
principle	PRIN
print	PRT
printed	PRTD
printer	PRTR
priority	PRTY
private	PRVT
privilege	PRVLG
procedure	PRCDR
proceeding	PRCDNG
process	PRCS
processed	PRCSD
processing	PRCSG
product	PROD

production	PRODN
productivity	PRODVTY
profile	PROF
program	PROG
promotion	PRMTN
property	PROP
proposal	PRPSL
proposed	PRPSD
prosecution	PROS
protection	PRTCN
protest	PRTST
province	PROV
public	PBLC
publication	PUB
publish	PUB
published	PUBD
purpose	PURP
purpose	PURP
quantity	QTY
rate	RT
reason	RSN
receipt	RCPT
receipts	RCPTS
receive/received	RCV
received	RCVD
receiving	RCVNG
record	REC
recordation	RCRD
records	RECS
redundant	REDUN
reference	REF
refill(ed)	REFIL
refund	RFND
refusal	RFSL
region	RGN
register	RGSTR
registration	REG
reimbursable	REIMBL
reissue	REISS
related	RLTD
relocation	RELOC
remain	REMN
remitter	REMTR

renew	RNW
renewable	RNWBL
renewal	RNWL
reorder	REORD
report	RPT
report/reported/reporting	RPTD
reporting	RPTG
reprint/corrected	REPRT
republish(ed)	REPUB
request	RQST
requested	RQSTD
require	REQ
required	REQ
requirement	REQT
resource	RESRC
response	RSP
restart	RSTRT
restrict	RSTR
return	RTN
returned	RTND
revenue	REV
reverse	RVRS
reversed	RVRSD
reversible	RVRSBL
review	RVW
reviewed	RVWD
revise	RVS
revised	RVSD
revision	RVSN
revocation	RVCTN
revocable	RVKBL
revoke	RVK
revolve	RVLV
role	ROLE
route	RTE
routing	RTE
sample	SMPL
search	SRCH
second	SCND
secondary	SCNDRY
secrecy	SECY
secret	SEC
section	SCTN

sectors	SCTR
secure	SCR
secured	SCRD
security	SCRTY
sequence	SEQ
sequential	SEQ
serial	SER
series	SRS
server	SVR
service	SRVC
session	SESSN
sheets	SHTS
shortened	SHORTD
sign(ed)	SGN
signature	SIG
source	SRC
special	SPCL
specialist	SPCLST
specialized	SPCLZD
species	SPCS
specification	SPEC
specimen	SPCMN
spectrum	SPCTRM
spending	SPNDG
standard	STND
start	STRT
state	STE
statement	STMNT
statistics	STATS
status	STAT
statutory	STATY
string	STRG
subclass	SUBCLS
submission	SUBMN
submitted	SUBM
subsequent	SUBS
suffix	SUFX
summary	SUM
summation	SUM
supplemental	SUPL
survey	SRVY
suspend	SUSP
suspended	SUSPD

suspension	SUSPN
system	SYS
table	TBL
target	TRGT
technical	TECHL
technology	TECH
telephone	TEL
term	TR
terminal	TRML
text	TX
time	TM
timestamp	TS
title	TTL
total	TOT
trademark	TM
transaction	TRAN
transactions	TRANS
transfer	XFR
transmission	TRANSM
trigger	TRIG
truncated/truncation	TRUNC
type	TYPE
unified	UNFD
unique	UNQ
update	UPDT
upper	UPR
use	USE
used	USED
user	USR
userid	USR_ID
value	VAL
verification	VRFCTN
verified	VRFD
verify	VRFY
version	VER
veterans	VTRNS
vintage	VNTG
voice	VCE
voucher	VOU
waiting	WTG
waive/waived	WVD
warehouse	WHS
weight	WT

window
worker
year
zip

WIN
WRKR
YR
PSTL CD

APPENDIX E

ORACLE RESERVED WORDS

Although there are reserved words from other software applications being used in the USPTO and documented in the Technical Reference Model, Oracle remains a dominant application at this time. For that reason, this appendix contains reserved words of Oracle and the Data Administration Division staff recommends the system development and maintenance staff avoid from using them.

ACCESS	IDENTIFIED	RAW
ADD	IMMEDIATE	RENAME
ALL	IN	RESOURCES
ALTER	INCREMENT	REVOKE
AND	INDEX	ROW
ANY	INITIAL	ROWID
AS	INSERT	ROWLABEL
ASC	INTEGER	ROWNUM
AUDIT	INTERSECT	ROWS
BETWEEN	INTO	SELECT
BY	IS	SESSION
CHAR	LEVEL	SET
CHECK	LIKE	SHARE
CLUSTER	LOCK	SIZE
COLUMN	LONG	SMALLINT
COMMENT	MASEXTENTS	START
COMPRESS	MINUS	SUCCESSFUL
CONNECT	MODE	SYNONYM
CREATE	MODIFY	SYSDATE
CURRENT	NOAUDIT	TABLE
DATE	NOCOMPRESS	THEN
DECIMAL	NOT	TO
DEFAULT	NOWAIT	TRIGGER
DELETE	NULL	UID
DESC	NUMBER	UNION
DISTINCT	OF	UNIQUE
DROP	OFFLINE	UPDATE
ELSE	ON	USER
EXCLUSIVE	ONLINE	VALIDATE
EXISTS	OPTION	VALUES
FILE	OR	VARCHAR
FLOAT	ORDER	VARCHAR2

FOR	PCTFREE	VIEW
FROM	PRIOR	WHENEVER
GRANT	PRIVILEGES	WHERE
GROUP	PUBLIC	WITH
HAVING		

APPENDIX F

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